Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the Federal Biobased Product Preferred Procurement Program (FB4P). This summary reflects data available as of September 15, 2005.

Title: Roof Coatings

Description: Coatings or materials formulated for use in commercial or residential roof deck systems.

Manufacturers Identified: 5 manufacturers producing Roof Coatings have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies producing Roof Coatings:

- Biobased Manufacturers Association
- Spray Polyurethane Foam Alliance
- National Paint & Coatings Association
- Roof Coatings Manufacturers Association
- National Roofing Contractor's Association
- Alliance for the Polyurethanes Industry
- The American Plastics Council
- Polyurethane Manufactures Association
- National Association of Home Builders
- Building Materials Resource
- Net Composites/Polyurethane Foam
- The Corrosion Society
- Steel Structures Painting Council
- American Water Works Association
- Roof Consultants Institute

Commercially Available Products Identified: Of the manufacturers identified, 12 Roof Coatings are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 3 Roof Coatings.

Industry Performance Standards: Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- American Society for Testing and Materials #D4541-95e1 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
- American Society for Testing and Materials #E84-05e1 Standard Test Method for Surface Burning Characteristics of Building Materials

- American Society for Testing and Materials #D92-05a Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
- Cool Roof Rating Council - Solar Reflectance
- Cool Roof Rating Council - Thermal Emittance

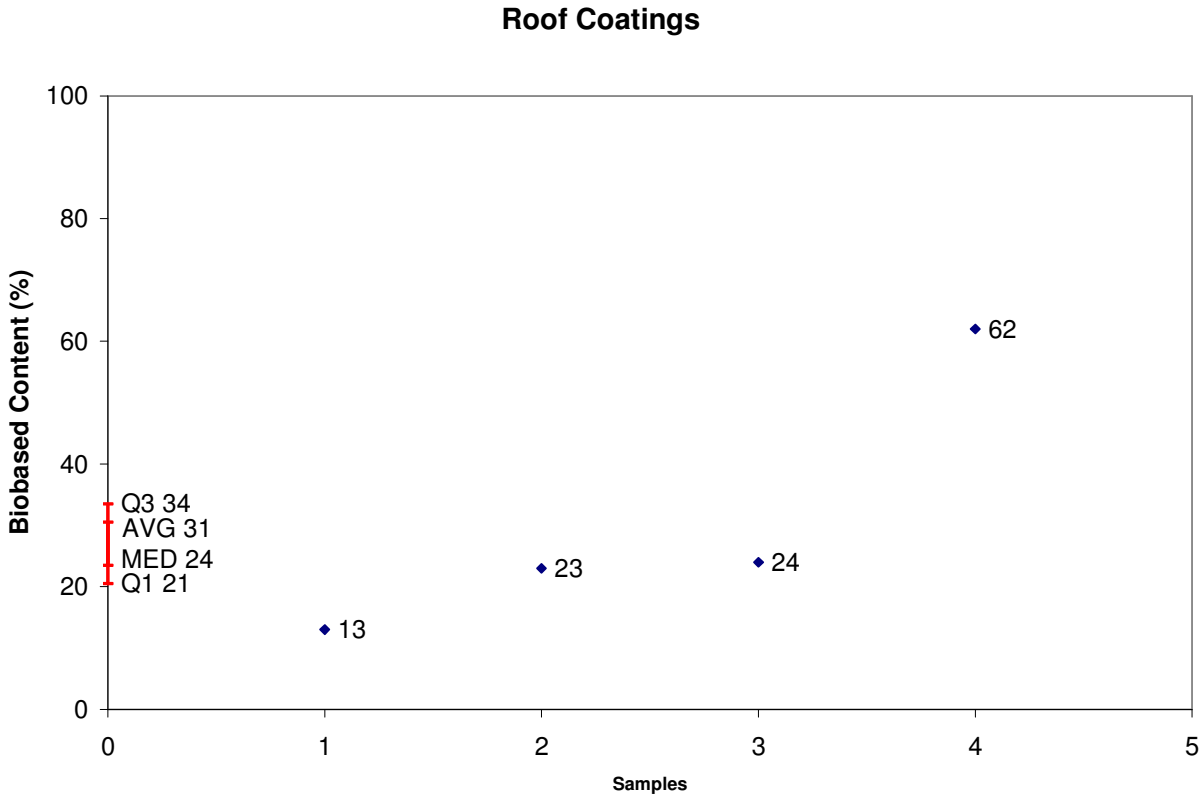
Samples Tested for Biobased Content: 4 samples of Roof Coatings have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

Biobased Content Data: Results from biobased content testing of Roof Coatings indicate a range of content percentages from 13% minimum to 62% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 1 Roof Coatings have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Roof Coatings range from $2.50 minimum to $2.50 maximum per usage unit. The environmental scores range from 0.0067 minimum to 0.0067 maximum. A detailed summary of the BEES results is included as Appendix B.

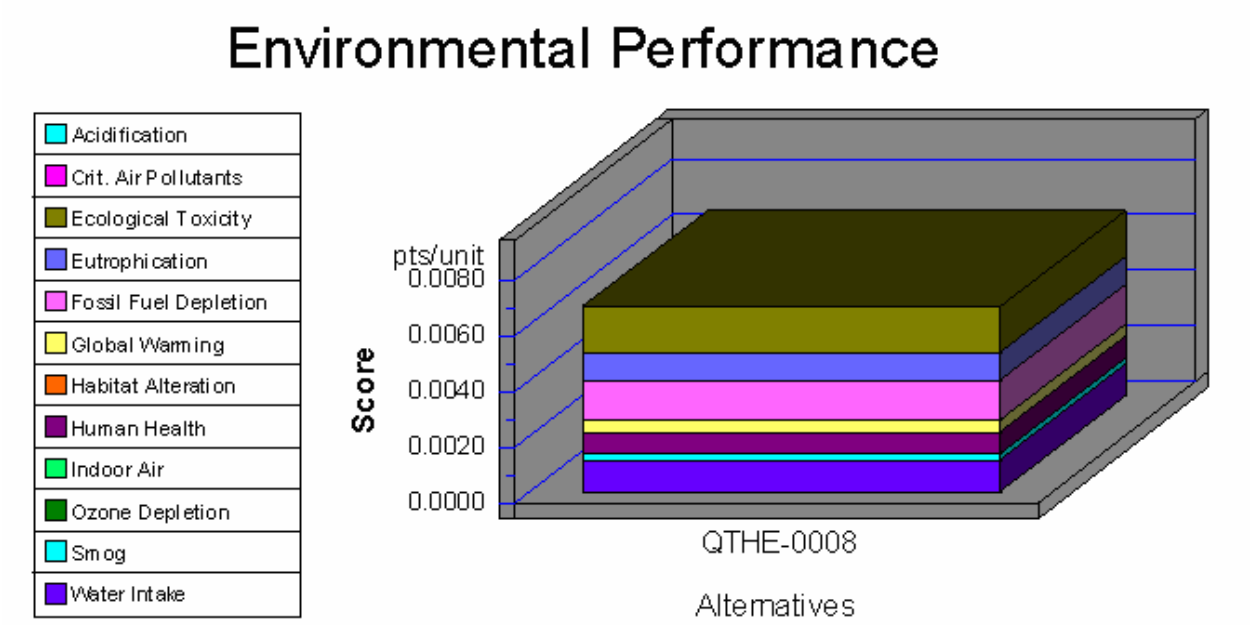
Appendix A - Biobased Content Data



	Manufacturers Identified	Products Identified	C14	BEES
1	O9MM	O9MM-0010	13	
2	O9MM	O9MM-0007	23	
3	O9MM	O9MM-0009	24	
4	QTHE	QTHE-0008	62	yes

Appendix B - BEES Analysis Results

Units: One 55-gallon Drum

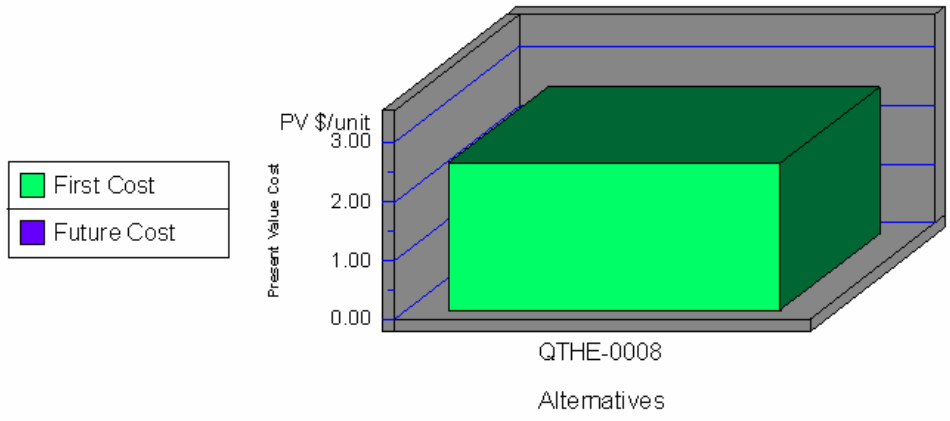


Note: Lower values are better

Category	QTHE-0008
Acidification–5%	0.0000
Crit. Air Pollutants–6%	0.0000
Ecolog. Toxicity–11%	0.0017
Eutrophication–5%	0.0010
Fossil Fuel Depl.–5%	0.0014
Global Warming–16%	0.0004
Habitat Alteration–16%	0.0000
Human Health--11%	0.0008
Indoor Air--11%	0.0000
Ozone Depletion--5%	0.0000
Smog--6%	0.0002
Water Intake--3%	0.0012
Sum	0.0067

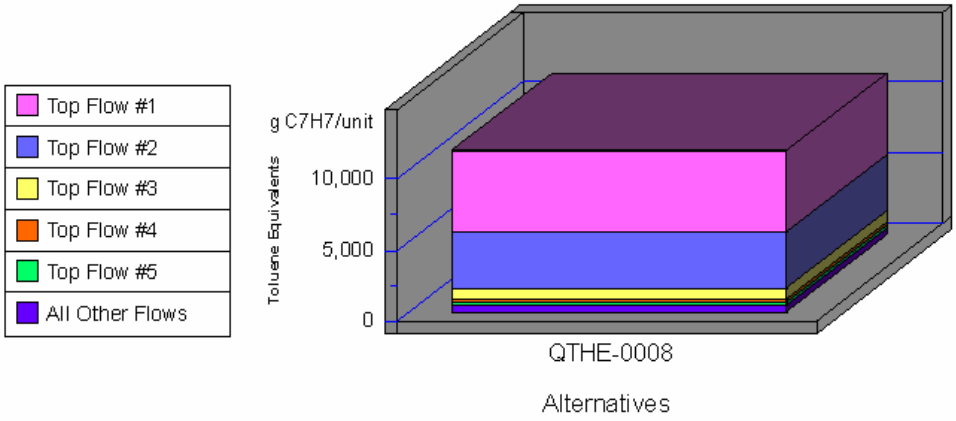
Appendix B (continued)

Economic Performance



Category	QTHE-0008
First Cost	2.50
Future Cost– 3.9%	0.00
Sum	2.50

Human Health by Sorted Flows*



Note: Lower values are better

Category	QTHE-0008
Cancer–(a) Atrazine (C8H14ClN5	5,697.00
Cancer–(w) Phenol (C6H5OH)	3,936.84
Cancer--(w) Arsenic (As3+, As5+	793.40
Cancer–(a) Metolachlor (C15H22	229.99
Cancer–(a) Cyanazine	200.03
All Others	499.91
Sum	11,357.17

*Sorted by five topmost flows for worst-scoring product